

REMARKS

Claims 1–33 are pending in this application. By this Amendment, claims 1–16 are amended, and claims 17–33 are newly presented. No new matter is added.

In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

I. Rejections Under 35 U.S.C. §103

The Office Action rejects claims 1–16 under 35 U.S.C. §103(a) as obvious over U.S. Patent No. 5,705,675 to Blackburn et al. ("Blackburn"). Applicant respectfully traverses the rejection.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the applied reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the applied references, not in applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

The Office Action correctly recognizes that Blackburn does not disclose the use of N-alkyl-morpholine as an organic base catalyst as required by the independent claims. *See* Office Action, page 4, lines 1–6. However, the Office Action "notes that replacing one organic base catalyst with another organic base catalyst in a chemical reaction is a well-known chemical practice to optimize the process efficiency of the system and does not constitute a patentable distinction."

As noted by the court in *In re Ahlert*, 424 F.2d 1088, 1091, 165 USPQ 418, 420 (CCPA 1970), the notice of facts beyond the record which may be taken by the examiner

must be "capable of such instant and unquestionable demonstration as to defy dispute" (citing *In re Knapp Monarch Co.*, 296 F.2d 230, 132 USPQ 6 (CCPA 1961)). Ordinarily, there must be some form of evidence in the record to support an assertion of common knowledge. See *Lee*, 277 F.3d at 1344-45, 61 USPQ2d at 1434-35 (Fed. Cir. 2002); *Zurko*, 258 F.3d at 1386, 59 USPQ2d at 1697 (holding that general conclusions concerning what is "basic knowledge" or "common sense" to one of ordinary skill in the art without specific factual findings and some concrete evidence in the record to support these findings will not support an obviousness rejection). See MPEP §2144.03(B).

The Office Action's assertions of what is "well-known" in the art is unsubstantiated by the record and is contradicted by the applied reference. For example, Blackburn states, "Conventional organic base catalysts for the reaction between acrolein and methyl mercaptan include amines such as pyridine, hexamethylenetetramine and triethylamine." See column 1, lines 30-33. However, Blackburn was granted a patent for claims directed to organic bases including "triisopropanolamine, tripropylamine, imidazole, benzimidazole, 2-fluoropyridine, 4-dimethylaminopyridine, picoline, pyrazine, N-methyldiphenethylamine, N-ethyl-3,3'-diphenyldipropylamine and trialkylamines having from five to twelve carbon atoms in each of the alkyl substituents bonded to the nitrogen atom." See, e.g., claim 1. Therefore, organic bases such as 4-dimethylaminopyridine, picoline, and 2-fluoropyridine, which are all derivatives of pyridine, were found to be patentable, and therefore non-obvious, over Blackburn's admitted prior art. This flies in the face of the Office Action's assertion that it is well known that substituting one organic base for another does not constitute a patentable distinction.

Furthermore, the International Preliminary Examination Report (IPER), although not binding on the current examination, did not reach the same conclusions as asserted by the Office Action. See IPER under heading "Reasoned statement with regard to novelty,

inventive step or industrial applicability; citations and explanations supporting such statement" (copy enclosed for Examiner's convenience). Even though the IPER does not cite Blackburn, the IPER cites four references that allegedly disclose the same or analogous reactions as the instant claims, but differ in the catalysts used. The IPER determined that the original claims were novel and non-obvious over the applied references. Therefore, the IPER found that replacing one organic base catalyst with another organic base catalyst constituted a patentable distinction. This casts serious doubt as to whether the Office Action's notice of what is well-known in the art is "capable of such instant and unquestionable demonstration as to defy dispute."

Blackburn discloses three classes of organic bases as catalysts: heterocyclic amines (*see, e.g.*, column 4, lines 28–34), trialkylamines (*see, e.g.*, column 4, lines 35–51), and very specific tertiary amines substituted with an aryl group (*see, e.g.*, column 4, line 52 to column 5, line 9). None of these are in the same class of compounds as N-alkyl-morpholine. Thus, Blackburn fails to teach or suggest such a catalyst.

Furthermore, the Examples and Tables of the specification, provide ample evidence of the unexpected advantages of the claimed catalyst over catalysts such as pyridine and imidazole. These advantages include higher yield, higher reaction efficacy, better kinetic efficiency, and lower production amounts of high molecular weight oligomers. This translates into faster reaction times, the use of less catalyst (reduces production costs), and a better quality product. Such results are unexpected from the teachings provided by Blackburn.

In summary, the Office Action's assertion of what is "well-known" in the art is unsubstantiated as discussed above, and without documentary evidence supporting such an assertion, can not be relied upon in support of an obviousness rejection. Additionally, N-

alkyl-morpholine is not taught or suggested by the applied reference, and the results achieved are unexpected in view of the teachings of Blackburn.

Blackburn would not have rendered obvious claims 1 and 16. Claims 2–15 variously depend from claim 1 and, thus, also would not have been rendered obvious by Blackburn. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

II. New Claims

By this Amendment, new claims 17–33 are presented. New claims 17–30 depend from claim 16 and, thus, distinguish over the applied reference for at least the reasons discussed above with respect to claim 16.

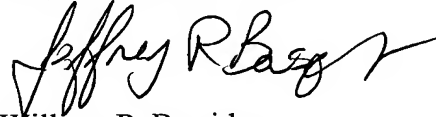
New independent claim 31 is directed to "[a] process for the production of 2-hydroxy-4-(methylthio)butanenitrile, comprising: reacting a reaction medium comprising 3-methylthiopropional (MTBA) and hydrogen cyanide in the presence of a catalyst comprising an organic base, wherein the organic base is a N-alkyl-morpholine" having features similar to the features recited in claim 16. Thus, claim 31 is believed to be patentable over the cited reference. New claims 32 and 33 depend from claim 31 and, thus, are also believed to be patentable over the cited reference. Prompt examination and allowance of new claims 17–33 are respectfully requested.

III. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1–33 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:

Copy of International Preliminary Examination Report

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